

		CM	TD	TP	CI	TE	Total	Coef
MATHEMATICS AND COMPUTER SCIENCE (8 ECTS)							113,75	
Mathematics	V. Maioli	8,75	10,5				19,25	2
Probability and stochastic processes	C. Heinrich, Y. Takakura	12,25	10,5	1,75			24,5	2
Procedural programming	L. Cuvillon, S. Faisan, ...	5,25		28	26,25		59,5	3
Unix	V. Thorel, V. Costantino				10,5		10,5	1
PHYSICS (8 ECTS)							98	
Quantum mechanics	A-S. Cordan, Y. Leroy	17,5	17,5				35	3
Propagation of electromagnetic waves	S. Lecler, A. Nahas, H. Salehi	12,25	14,0				26,25	2
Physics of solid	S. Haacke, H. Salehi	19,25	17,5				36,75	3
CONTROL THEORY AND ELECTRONICS (8 ECTS)							119,25	
Analog electronics	V. Schuh, C. Lallement, N. Dumas, ...	14	10,5	12	5,25		41,75	3
Digital electronics	M. Madec, A. Nahas, M. Frey, ...	7	10,5	8			25,5	2
Dynamical Systems	I. Bara, L. Cuvillon, F. Nageotte, ...	10,5	8,75	4			23,25	2
Matlab	Y. Takakura, C. Heinrich			8,75			8,75	1
LabVIEW	J. Dellinger, C. Lallement, V. Schuh			20			20	2
FOREIGN LANGUAGES (3 ECTS)							44	
English	CRL		20,0				20	N
German, spanish, japanese, or chinese			24,0				24	N
ECONOMIC AND SOCIAL SCIENCES (3 ECTS)							26,75	
Interpersonal communication	A. Brouchet, C. Colmerauer	7					7	-
Sustainable development and corporate social ...	G. Burgart, M. Louys, V. Maioli	10,5	9,25				19,75	R
		CM	TD	TP	CI	TE	Total	Coef
COMPUTER SCIENCE AND SIGNAL PROCESSING (10 ECTS)							140,5	
Numerical analysis	V. Maioli, J. Reh binder	12,25	1,0	16			29,25	1
Object-oriented programming	S. Faisan, A. Lallement	8,75	5,75	12	3,5		30	1
Signal processing	C. Meillier, V. Mazet	14	14,0				28	1
Mathematics - computer science project	J. Zallat, S. Faisan, V. Maioli	1,75	1,5			50	53,25	2
PHYSICS AND MECHANICS (5 ECTS)							68,25	
Radiation and image	J. Zallat				21		21	2
Experimental physics	M. Torzynski, T. Heiser, J. Labeled, ...	1,75		24			25,75	3
Solid mechanics	D. Baumgartner, B. Gomes	10,5	7,0		4		21,5	2
CONTROL THEORY AND ELECTRONICS (6 ECTS)							75,5	
Continuous control systems	I. Bara, L. Cuvillon, F. Nageotte, ...	10,5	8,75	16			35,25	3
Microcontrollers	M. Madec, H. Omran, T. Hingre	4,5		8			12,5	1
Instrumentation circuits	N. Dumas, M. Madec, J Dellinger, ...	5,25	1,75	12	8,75		27,75	2
OPENING COURSES (3 ECTS)							42	
<i>Two opening courses to choose</i>								
Images, signals and data sciences	C. Meillier				21		21	1
System engineering, control and computer vision	L. Cuvillon, B. Gomes, M. Chaari			16	5		21	1
Engineering and physical science of the living	D. Baumgartner, JP. Dillenseger				21		21	1
Photonics	A. Nahas, H. Salehi, ...				21		21	1
Physics and modeling	Y. Leroy				21		21	1
Quantum sciences and technologies	C. Solaro, Y. Leroy				21		21	1
FOREIGN LANGUAGES (3 ECTS)							44	
English	CRL		20,0				20	N
German, spanish, japanese, or chinese			24,0				24	N
ECONOMIC AND SOCIAL SCIENCES (3 ECTS)							41	
Professional project		3,5	10,5				14	R
Discover the basics of entrepreneurship	C. Bournique		6,0				6	R
Epistemology and construction of knowledge 1	C. Collet	21					21	R

N : level. R : result (acquired or not).

Assessment rules are available at formations.unistra.fr.

Click on the course name to view its description.

Published : 29/09/2025

		CM	TD	TP	CI	TE	Total	Coef
ENGINEERING SCIENCES (9 ECTS)							118,25	
Statistical hypothesis tests	F. Heitz, C. Meillier	5,25	8,0				13,25	1
Artificial intelligence and machine learning	A. Deleforge, P. Charbonnier, ...	12,25		7,5			19,75	2
Digital signal processing	Y. Takakura, C. Heinrich	10,5	10,5	7			28	3
Statistical signal processing	F. Heitz, C. Meillier, M. Moudoud	10,5	10,5	7			28	3
Embedded systems	M. Madec, L. Werling, E. Meunier, ...	3,5	1,0	16			20,5	2
Finite elements	B. Gomes	8,75					8,75	1
PHYSICS 1 (9 ECTS)							108,25	
Experimental physics	M. Torzynski, J. Dellinger, ...	5,25		40			45,25	2,5
Semiconductor physics and devices	T. Heiser	17,5	10,5				28	1,5
Statistical physics	Y. Leroy	17,5	17,5				35	2
PROJECT (5 ECTS)							80	
Engineering project 1	P. Szychowiak, J. Labeled	7	23,0			60	90	1
FOREIGN LANGUAGES (3 ECTS)							42	
English	Ruhlmann M., Piotto R.			20			20	N
German, spanish, japanese, or chinese				22			22	N
ECONOMIC AND SOCIAL SCIENCES (1 ECTS)							17,5	
Professional networking	F. Prégaldiny	1,5	12,0				13,5	R
Ecological transition workshop	V. Maioli			4			4	R
INTERNSHIP (3 ECTS)								N
Executing internship								
		CM	TD	TP	CI	TE	Total	Coef
PHYSICS 2 (8 ECTS)							79,25	
Physical simulations using the finite element method	Y. Leroy, A-S. Cordan			12			12	1,5
Advanced Quantum Mechanics	A.-S. Cordan	17,25					17,25	1,5
Supervised personal project			50,0				50	2,5
<i>Choice of 1 unit from the 3 units below</i>								
PHYSICS AND MODELING (12 ECTS)							94,25	
Nanosciences	O. Ersen	11,5					11,5	1
Atomic Physics	A-S. Cordan	11,5					11,5	1
Nuclear Physics	N. Arbor	21					21	2
Magnetism	M. Bailleul	17,25					17,25	1,5
Relativity	J. Pétri	19					19	2
Machine learning and AI	H. Drira				14		14	1,5
PHOTONICS (12 ECTS)							100,25	
Nanosciences	O. Ersen	11,5					11,5	1
Laser physics	S. Haacke, M. Torzynski	15,75	1,75		1,75		19,25	2
Optoelectronics	A. Nahas, H. Salehi	15,75	5,25	3			24	2
Wave optics	P. Twardowski	15,75					15,75	1,5
Instrumental techniques for health	V. Maioli	15,75					15,75	1,5
Mini instrumental projects for Photonics	A. Nahas				14		14	1,5
QUANTUM SCIENCES AND TECHNOLOGIES (12 ECTS)							109	
Laser physics	S. Haacke, M. Torzynski	15,75	1,75		1,75		19,25	1,5
Optoelectronics	A. Nahas, H. Salehi	15,75	5,25	3			24	1,5
Atomic Physics	A-S. Cordan	11,5					11,5	1
Strong light-matter interactions	D. Hagenmuller	24,5					24,5	2
Quantum information support and quantum detection	R. Kukla	19,25					19,25	2
Manipulation of quantum information	C. Solaro	5,25					5,25	-
Seminars from private and public quantum players	C. Solaro				5,25		5,25	-
PROJECT (5 ECTS)							96,5	
Engineering project 2	P. Szychowiak, J. Labeled	3,5	23,0			80	106,5	1
FOREIGN LANGUAGES (3 ECTS)							42	

		CM	TD	TP	CI	TE	Total	Coef
English	Ruhlmann M., Piotto R.		20,0				20	N
German, spanish, japanese, or chinese			22,0				22	N
ECONOMIC AND SOCIAL SCIENCES 2 ECTS							29,75	
Financial management	I. Barth	10,5					10,5	1
Team management	C. Poloce	0	5,25				5,25	R
Career planning project		3,5	10,5				14	R

N : level. R : result (acquired or not).

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 2^e ANNÉE
Année universitaire 2025-2026
Département STS
Promotion 2027

		CM	TD	TP	CI	TE	Total	Coef
ENGINEERING SCIENCES (9 ECTS)							118,25	
Statistical hypothesis tests	F. Heitz, C. Meillier	5,25	8,0				13,25	1
Artificial intelligence and machine learning	A. Deleforge, P. Charbonnier, ...	12,25		7,5			19,75	2
Digital signal processing	Y. Takakura, C. Heinrich	10,5	10,5	7			28	3
Statistical signal processing	F. Heitz, C. Meillier, M. Moudoud	10,5	10,5	7			28	3
Embedded systems	M. Madec, L. Werling, E. Meunier, ...	3,5	1,0	16			20,5	2
Finite elements	B. Gomes		8,75				8,75	1
BIOMEDICAL ENGINEERING (9 ECTS)							93	
Engineering for health	D. Baumgartner, B. Gomes, ...	28			38,5		66,5	2
Digital biomechanics		10,5			16		26,5	1
PROJECT (5 ECTS)							100	
Engineering project 1	P. Szychowiak, J. Labed	7	23,0			80	110	1
FOREIGN LANGUAGES (3 ECTS)							42	
English	Ruhlmann M., Piotto R.			20			20	N
German, spanish, japanese, or chinese				22			22	N
ECONOMIC AND SOCIAL SCIENCES (1 ECTS)							17,5	
Professional networking	F. Prégaldiny	1,5	12,0				13,5	R
Ecological transition workshop	V. Maioli		0,0	4			4	R
INTERNSHIP (3 ECTS)								N
Executing internship								N
		CM	TD	TP	CI	TE	Total	Coef
SUPERVISED PERSONAL PROJECT (4 ECTS)							50	
Supervised personal project ISPV	D. Baumgartner, B. Gomes		50,0				50	1
BIOMECHANICS (6 ECTS)							66,75	
Biomechanics and health	D. Baumgartner, B. Gomes, ...			16	50,75		66,75	1
MEDICAL AND SURGICAL PROCEDURES (6 ECTS)							62	
Medical image processing	M. Mondino	5,25		6			11,25	2
Medical and surgical procedures	D. Baumgartner	17,5					17,5	2
Clinical translation	S. Gioux	8,75					8,75	1
Biomedical devices and HIS	A. Bergery, A. Pellegrino	24,5					24,5	2
IMAGES AND COMPUTER VISION (4 ECTS)							44	
Computer vision	F. Nageotte	16					16	1
Image processing	H. Drira	14		14			28	2
PROJECT (5 ECTS)							96,5	
Engineering project 2	P. Szychowiak, J. Labed	3,5	23,0			80	106,5	1
FOREIGN LANGUAGES (3 ECTS)							42	
English	Ruhlmann M., Piotto R.		20,0				20	N
German, spanish, japanese, or chinese			22,0				22	N
ECONOMIC AND SOCIAL SCIENCES (2 ECTS)							29,75	
Financial management	I. Barth	10,5					10,5	1
Team management	C. Poloce	0	5,25				5,25	R
Career planning project		3,5	10,5				14	R

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 3^e ANNÉE
Année universitaire 2025-2026
Option Physique et Modélisation
Parcours Astrophysique
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
PHYSICS AND MODELING (3 ECTS)							114	
Supplements to quantum and statistical physics	A-S. Cordan	14					14	1
Parallel computing	V. Loechner	8		12		30	50	1,5
Physical modeling and numerical simulation	A-S. Cordan, Y. Leroy	20				30	50	1,5
ASTROPHYSICAL OBJECTS AND THEORIES (4 ECTS)							76	
Introduction to astrophysics		12					12	1
Cosmology		16					16	1
Galaxies		18	2,0	2			22	1
Stellar physics		16					16	1
Interstellar medium		8	2,0				10	1
NUMERICAL PHYSICS AND ASTROPHYSICAL MEDIUM MODELING (4 ECTS)							76	
Introduction to programming				26,0			26	1
Plasmas and MHD		18	2,0				20	1
Numerical methods and simulations		4		26			30	1,5
DATA ANALYSIS (3 ECTS)							40	
Statistics, inference and machine learning		20					20	1
Databases		8		12			20	1
ELECTIVE LECTURES (3 ECTS)							40	
<i>2 courses to choose</i>								
Inverse problem theory and advanced data analysis		20					20	1
High energy astrophysics		20					20	1
Galaxy evolution		20					20	1
External (planetary science, telescope and ...)		20					20	1
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.			20,0			20	N
German, spanish, japanese, or chinese				20,0			20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
<hr/>								
		CM	TD	TP	CI	TE	Total	Coef
(30 ECTS)								
Defense								6
Report								6
Internship work								18

N : level. R : result (acquired or not).

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 3^e ANNÉE
Année universitaire 2025-2026
Option Physique et Modélisation
Parcours Physique cellulaire
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
PHYSICS AND MODELING (3 ECTS)							114	
Supplements to quantum and statistical physics	A-S. Cordan	14					14	1
Parallel computing	V. Loechner	8		12		30	50	1,5
Physical modeling and numerical simulation	A-S. Cordan, Y. Leroy	20				30	50	1,5
CELL PHYSICS (3 ECTS)							60	
Theoretical cell physics		30					30	1
Experimental cell physics		30					30	1
CELL BIOLOGY, SYSTEM BIOLOGY (5 ECTS)							89	
Introduction to system biology		6			21		27	1
Population genetics		12					12	0,5
Physics and biology of living matter		22					22	1
Biological basics for physicists		24		4			28	1
MATHEMATIC AND CHEMISTRY FOR LIVING MATTER (3 ECTS)							56	
Chemistry for living matter		20					20	1
Basics in chemistry		16					16	1
Mathematics for living matter		20					20	1
PRACTICALS FOR LIVING MATTER (3 ECTS)							45	
<i>3 courses to choose</i>								
Microfabrication				16			16	1
Digital biology and microfluidics				20			20	1
Mechanical workshop				16			16	1
Numerical simulation	M. Madec	15					15	1
Cell biology and molecular biology				16			16	1
Imaging				16			16	1
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.			20,0			20	N
German, spanish, japanese, or chinese				20,0			20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
							30 ECTS	
Defense								6
Report								6
Internship work								18

N : level. R : result (acquired or not).

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 3^e ANNÉE
Année universitaire 2025-2026
Option Physique et Modélisation
Parcours Physique de la matière condensée quantique et molle
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
PHYSICS AND MODELING (3 ECTS)							114	
Supplements to quantum and statistical physics	A-S. Cordan	14					14	1
Parallel computing	V. Loechner	8		12		30	50	1,5
Physical modeling and numerical simulation	A-S. Cordan, Y. Leroy	20				30	50	1,5
ADVANCED CONDENSED MATTER (8 ECTS)							126	
Advanced quantum mechanics : applications to ...		42					42	1
Radiation-matter interaction : applications to ...		42					42	1
Advanced statistical mechanics : out-of-equilibrium ...		42					42	1
ELECTIVE LECTURES (6 ECTS)							90	
<i>4 + 1 courses to choose</i>								
Project		18					18	1
Many-body physics and quantum simulations		18					18	1
Open quantum systems		18					18	1
Light-matter interactions at extreme scales		18					18	1
Quantum dynamics : light and matter		18					18	1
Spin technologies		18					18	1
Nanomagnetism and spintronics		18					18	1
Electrons in solids		18					18	1
Low dimensional nanostructures		18					18	1
Physics in two dimensions		18					18	1
Surfaces and Interfaces in soft condensed matter		18					18	1
Interactions in soft condensed matter		18					18	1
Physics in active systems		18					18	1
Polymer physics		18					18	1
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.					20,0	20	N
German, spanish, japanese, or chinese						20,0	20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
CM TD TP CI TE Total Coef								
30 ECTS								
Defense								6
Report								6
Internship work								18

N : level. R : result (acquired or not).

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 3^e ANNÉE
Année universitaire 2024-2025
Option Physique et Modélisation
Parcours Physique des rayonnements, détecteurs,
instrumentation et imagerie
Promotion 2025

		CM	TD	TP	CI	TE	Total	Coef
PHYSICS AND MODELING (3 ECTS)							114	
Supplements to quantum and statistical physics	A-S. Cordan	14					14	1
Parallel computing	V. Loechner	8		12		30	50	1,5
Physical modeling and numerical simulation	A-S. Cordan, Y. Leroy	20				30	50	1,5
DETECTORS AND INSTRUMENTATION AND PHYSICS OF MEDICAL IMAGING (4 ECTS)							56	
Detector/Instrumentation		30					30	1
Medical imaging : physical basics		18		8			26	1
PHYSICS AND BIOLOGY FOR IMAGING (3 ECTS)							58	
Biological basics for physicists		24		4			28	1,5
Interaction radiation/matter		18					18	1
Dosimetry		12					12	1
NUMERICAL SIMULATION FOR IMAGING (3 ECTS)							50	
Python					25		25	1
Artificial intelligence					25		25	1
ELECTIVE LECTURES (4 ECTS)							60	
<i>3 courses to choose</i>								
Magnetic Resonance Imaging		20					20	1
Optical microscopies		20					20	1
Nuclear imaging		20					20	1
Image processing					20		20	1
Physics of nuclear reactors and other applications		20					20	1
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.			20,0			20	N
German, spanish, japanese, or chinese				20,0			20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
<hr/>								
		CM	TD	TP	CI	TE	Total	Coef
(30 ECTS)								
Defense								6
Report								6
Internship work								18

N : level. R : result (acquired or not).

Assessment rules are available at formations.unistra.fr.

Click on the course name to view its description.

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 3^e ANNÉE
Année universitaire 2025-2026
Option Physique et Modélisation
Parcours Physique subatomique et astroparticules
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
PHYSICS AND MODELING (3 ECTS)							114	
Supplements to quantum and statistical physics	A-S. Cordan	14					14	1
Parallel computing	V. Loechner	8		12		30	50	1,5
Physical modeling and numerical simulation	A-S. Cordan, Y. Leroy	20				30	50	1,5
SUBATOMIC PHYSICS (5 ECTS)							80	
Quantum field theory		22					22	1,5
Nuclei and nucleon interactions		22					22	1,5
Particle physics		22					22	1
Astroparticules		14					14	1
INSTRUMENTATION AND MODELING (3 ECTS)							50	
Radiation interaction with matter		14					14	1
Detectors physics and detection systems		14					14	1
Data analysis and modelisation		16			6		22	1,5
ELECTIVE LECTURES (6 ECTS)							100	
<i>4 + 1 courses to choose</i>								
Theoretical aspects of nuclear physics		20					20	1
From nuclei to stars		20					20	1
Theoretical aspects of particle physics		20					20	1
Beyond standard model		20					20	1
General relativity and applications to cosmology		20					20	1
Astroparticules and observational cosmology		20					20	1
Physics of nuclear reactors and other application of ...		20					20	1
Quantum physics, analytical mechanics, special ...		20					20	1
Strong interaction at hadronic colliders		20					20	1
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.			20,0			20	N
German, spanish, japanese, or chinese				20,0			20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
<hr/>								
		CM	TD	TP	CI	TE	Total	Coef
(30 ECTS)								
Defense								6
Report								6
Internship work								18

N : level. R : result (acquired or not).

Assessment rules are available at formations.unistra.fr.

Click on the course name to view its description.

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 3^e ANNÉE
Année universitaire 2025-2026
Option Sciences et technologies quantiques
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef					
ENGINEERING FOR QUANTUM SCIENCES AND TECHNOLOGIES (5 ECTS)							61,5						
Enabling technologies 1 : ultra-high vacuum and ...	B. Gobaut	11					11	1,5					
Enabling Technologies 2 : advanced electronics	W. Uhring, M. Madec	13		16			29	2,5					
Precision measurements and quantum metrology	C. Solaro	13,5					13,5	2					
Applications of quantum computing	G. Durantin				8		8	1					
QUANTUM SCIENCES AND TECHNOLOGIES (8 ECTS)							154						
Quantum technology and applications	S. Whitlock	28	14,0				42	2					
Quantum physics of devices and sensors	J.-F. Dayen, C. Solaro	28	14,0				42	2					
Advanced laboratory practicals				70			70	3					
ELECTIVE COURSES (4 ECTS)							72						
<i>4 courses to choose</i>													
Hybrid quantum devices	C. Couteau, A. Metelmann	18					18	1					
Quantum information	G. Pupillo, J. Dubail	18					18	1					
Computer science for quantum technologists	J. Schachenmayer	18					18	1					
Quantum systems of atoms and light		18					18	1					
Advanced topics in quantum technology 1 (1 DIGIQ ...)		18					18	1					
Advanced topics in quantum technology 2 (1 DIGIQ ...)		18					18	1					
Many-body physics	J. Schachenmayer	18					18	1					
Open quantum systems	J. Leonard, A. Metelmann	18					18	1					
Spin technologies	B. Doudin	18					18	1					
FOREIGN LANGUAGES (3 ECTS)							40						
English	Ruhlmann M., Piotto R.			20,0			20	N					
German, spanish, japanese, or chinese				20,0			20	N					
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72						
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1					
Quality	E. Nguyen-Van-Sang	16					16	1					
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2					
Intellectual property and patents	P. Borne	16					16	1					
INTERNSHIP (6 ECTS)													
Practical internship								N					
							CM	TD	TP	CI	TE	Total	Coef
(30 ECTS)													
Defense								6					
Report								6					
Internship work								18					

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Année universitaire 2025-2026
Option Photonique
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
LASERS AND NONLINEAR OPTICS (3 ECTS)							58,75	
Femtosecond laser and technology	S. Haacke, V. Halté, O. Crégut	10,5		8			18,5	1,5
Nonlinear optics	V. Halté	15,75	3,5				19,25	1
Biomechanics and materials	T. Engel	21					21	1,5
MICRO AND NANOPHOTONICS (3 ECTS)							56,5	
Metamaterials and photonics crystals	S. Lecler	15,75					15,75	1,5
Micro and nanomanufacturing	M. Flury, T. Heiser, A. Barsella	12,25					12,25	1
Advanced microscopy	V. Maioli	12,25					12,25	1
Plasmonics and bioapplications : fundamentals	Y. Takakura	8,75	3,5	4			16,25	1,5
METROLOGY (3 ECTS)							61	
Optical metrology	A. Nahas	15,75		12			27,75	2
Interferometric systems and imaging	J. Zallat, Y. Takakura	21					21	2
Fourier optics and polarization	J. Zallat	12,25					12,25	1
COMPONENTS AND SYSTEMS (3 ECTS)							43,5	
Diffractive optics and CAD	P. Twardowski	15,75		8			23,75	1
Biomedical optics	A. Nahas, H. Salehi	15,75		4			19,75	1
PHOTONICS PROJECTS (5 ECTS)							109,5	
Experimental photonic R&D project	Nahas A.			8			8	0,5
	S. Lecler, S. Haacke, A. Nahas, ...	3,5	28,0			70	101,5	2,5
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.		20,0				20	N
German, spanish, japanese, or chinese			20,0				20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
		CM	TD	TP	CI	TE	Total	Coef
(30 ECTS)								
Defense								6
Report								6
Internship work								18

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Année universitaire 2025-2026
Option ISPV
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
BIOMEDICAL ENGINEERING (5 ECTS)							70	
Anatomy, physiology and models	C. Habold	28					28	2
MEMS and MOEMS	C. Lallement	17,5					17,5	1
Biomedical devices and HIS	A. Bergery, A. Pellegrino	24,5					24,5	2
BIOMECHANICS AND MODELLING (7 ECTS)							119	
Biomechanics and numerical modeling	D. Baumgartner	56					56	5
Biomechanical of shocks and vibrations	D. Baumgartner	14					14	1
Biomechanics and materials	D. George	24,5					24,5	2
Biomechanics and rheology	S. Chatelin, A. Josset	24,5					24,5	2
MEDICAL IMAGING (5 ECTS)							85	
Physical medical imagers	P. Choquet, J.P. Dillenseger			8	35		43	3
Advanced medical image processing : modalities and ...	M. Mondino, M. Sourty, J. Vappou	21					21	1
3D modeling and surgical simulation	S. Théry, C. Essert, H. Seo, ...	21					21	1
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.		20,0				20	N
German, spanish, japanese, or chinese			20,0				20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
							30 ECTS	
Defense								6
Report								6
Internship work								18

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DIPLÔME D'INGÉNIEUR GÉNÉRALISTE 3^e ANNÉE
Année universitaire 2025-2026
Option ISAV
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
ROBOTICS (4 ECTS)							61,5	
Robotics : manipulations and controls	J. Gangloff	19,25		4			23,25	2
Mobile robotics	B. Bayle	12,25					12,25	1
Drones : design, manufacturing and control	J.Gangloff, A. Bielefeld	12,25	1,75	4			18	1
Applied robotics	J. Gangloff, L. Cuvillon			8			8	1
COMPUTER AND ROBOT VISION (3 ECTS)							56	
High-speed visual servoing	J. Gangloff	8,75		1,75			10,5	1
3D vision	A. Habet	24,5					24,5	2
Reinforcement learning and simulation	M. Yguel				21		21	2
ADVANCED CONTROL SYSTEMS (4 ECTS)							66,25	
Optimal estimation and filtering	I. Bara	15,75		8			23,75	2
Optimal and learning-based control	H. Omran	19,25		4			23,25	2
Non linear systems	I. Bara	19,25					19,25	2
COMPUTER SCIENCE AND NETWORKS (2 ECTS)							38,25	
Real-time and embedded systems	J. Gangloff, L. Cuvillon	10,5		12			22,5	2
IP networks	F. Théoleyre	15,75					15,75	1
SUPERVISED PROJECTS (4 ECTS)							80	
Tutored projects	L. Cuvillon		20,0			60	80	1
FOREIGN LANGUAGES (3 ECTS)							40	
English	Ruhlmann M., Piotto R.		20,0				20	N
German, spanish, japanese, or chinese			20,0				20	N
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)							72	
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
		CM	TD	TP	CI	TE	Total	Coef
(30 ECTS)								
Defense								6
Report								6
Internship work								18

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Année universitaire 2025-2026
Option ISSD
Promotion 2026

		CM	TD	TP	CI	TE	Total	Coef
							78,75	
IMAGE AND VISION (5 ECTS)								
Advanced tools for image processing	J-B. Courbot	14					14	1
Image sequence analysis	F. Heitz	15,75					15,75	1
Spectral analysis	Y. Takakura	5,25	5,25				10,5	1
Discrete geometry and morphology mathematics	M. Tajine, B. Naegel	14					14	1
Computer vision	A. Habet	24,5					24,5	2
							120,5	
DATA AND MACHINE LEARNING (7 ECTS)								
Machine learning and pattern recognition	P. Charbonnier	15,75		15,75			31,5	3
Robust estimation in image processing	P. Charbonnier	10,5					10,5	1
Big data	G. Frey	17,5					17,5	2
Machine learning workshops	Th. Lampert, M. Obrenovic			20			20	2
Generative AI	Th. Lampert, M. Obrenovic	16					16	2
Deep learning	Jean-Paul Mazellier	0			25		25	2
							80,5	
IMAGE PROCESSING APPLICATIONS (5 ECTS)								
Advanced image processing with Matlab	P. Charbonnier, P. Foucher, M. Louys				36		36	3
Medical image processing	M. Mondino	10,5					10,5	1
Remote sensing for sustainable development	I. Becker-Reshef	14					14	1
Opening courses at IMT Atlantique	V. Burdin				20		20	1
							40	
FOREIGN LANGUAGES (3 ECTS)								
English	Ruhlmann M., Piotto R.		20,0				20	N
German, spanish, japanese, or chinese			20,0				20	N
							72	
ECONOMIC AND SOCIAL SCIENCES (4 ECTS)								
Economic intelligence	O. Olivier-Garnier, A. Matoua	12					12	1
Quality	E. Nguyen-Van-Sang	16					16	1
Entrepreneurship	M. Cuny, F. Prégaldiny	28					28	2
Intellectual property and patents	P. Borne	16					16	1
INTERNSHIP (6 ECTS)								
Practical internship								N
		CM	TD	TP	CI	TE	Total	Coef
30 ECTS								
Defense								6
Report								6
Internship work								18

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